

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A control device for a wireless communications network, said network comprising a plurality of base stations communicating with a plurality of mobiles, said control device comprising:

a calculator, arranged for calculating first quantities, of quantities belonging to a group of quantities comprising quantities related to attenuations measured between said mobiles and said base stations and for calculating second quantities, related to a signal to interference and noise ratio threshold, said control device further comprising:

a decision device operating jointly with the calculator according to a predefined mechanism, ~~for deciding whether or not a new candidate mobile can be processed in said network,~~

~~characterised in that the said predefined mechanism comprises, for each~~ comprising, for a given base station ~~to be controlled by said control device:~~

- for each mobile amongst the mobiles served by one of said plurality of said given base stations station and the mobile candidates to be served by said given base station, for each new candidate mobile to said base station, a load calculation function capable of calculating a load induced by said mobile to said base station, as a sole function of the quantities output by said calculator, and

evaluating an individual load induced by a current one of said each mobiles to said given base station, by applying a load calculation function using first and second quantities as calculated by said calculator,

said load calculation function using first quantities related to the mobile and to base stations being adjacent to said given base station, for determining the sum of the inverses of the attenuations of the adjacent stations,

the resulting sum being multiplied by a predefined expression using a second quantity for the current mobile, and related to a threshold of the signal to interference and noise ratio, and

the resulting sum being further multiplied by the attenuation at said given base station, as represented by the corresponding first quantity, and

- an evaluation of evaluating a load condition associated to said base station, by summing the individual as a function of the loads calculated for the mobiles served by said base station and the individual loads calculated for the mobile candidates to said base station, said load condition representing a feasibility of power allocation to said mobiles by said base station[[]], for use by said decision device for deciding whether or not a new candidate mobile can be processed in said network.

2-3. (Cancelled)

4. (Original) Device according to Claim 1, characterised in that it comprises storage of a current value of the summed load, and in that the said mechanism operates incrementally by calculating the load of a candidate mobile, and updating the summed load, in order to determine whether the mobile is admitted or not, by comparing the summed load with a threshold.

5. (Original) Device according to Claim 1, characterised in that the calculator is provided with a function capable of evaluating a prior uplink budget condition (UBC), compared with a threshold budget value (UBC),

and in that the mechanism used by the decision device first of all invokes the said function of evaluation of the prior condition, and rejects the candidate mobile if this condition is not satisfied.

6. (Original) Device according to Claim 5, characterised in that the prior condition comprises, for a mobile, the calculation of its maximum power, divided by an expression related to the threshold of the signal to interference and noise ratio, and by the attenuation at the server station.

7. (Original) Device according to Claim 5, characterised in that the working condition comprises a threshold value, established in correspondence with the said threshold budget value (UBC).

8. (Currently Amended) Device according to Claim 1, ~~characterised in that it comprises a second mechanism~~ wherein said decision device is configured for capable of cooperating with the calculator in order to evaluate, for a given station, a non-congestion criterion, and further comprising a second decision device, capable of modifying a mobile bit rate in order to remain within the field of the congestion criterion.

9. (Original) Device according to Claim 8, characterised in that the second mechanism comprises, for each mobile, the calculation of its signal to interference and noise ratio threshold, and then the calculation of an expression related to this signal to interference and noise ratio threshold, and next the invocation of the load calculation function with these values, and then the calculation of the summed load due to the mobiles served by the station in question, this summed load being compared with a threshold.

10. (Previously Presented) Device according to Claim 8, characterised in that the second mechanism comprises, for each mobile, a calculation of its signal to interference and noise ratio threshold, and then the calculation of an expression related to this signal to interference and noise threshold, and next:

- the invocation of the function capable of evaluating a prior uplink budget condition (UBC), compared with a threshold budget value (UBC), the mobile concerned being rejected if this prior condition is not satisfied,

- for the mobiles not rejected, the invocation of the load calculation function with the aforementioned values, and then the calculation of the summed load due to the mobiles served by a station in question, this summed load being compared with a threshold related to the threshold budget.

11. (Currently Amended) A control method for a wireless communications network comprising a plurality of base stations communicating with a plurality of mobiles comprising, for each base station to be controlled by said method, the steps of:

- a. calculating first quantities, related to attenuations measured between said mobiles and said base stations and calculating second quantities, related to a signal to interference and noise ratio threshold,

- for a given base station:

for each mobile amongst the mobiles served by said given base station and the mobile candidates to be served by said given base station,

evaluating an individual load induced by a current one of said each mobiles to said given base station, by applying a load calculation function using first and second quantities as calculated by said calculator,

said load calculation function using first quantities related to the mobile and to base stations being adjacent to said given base station, for determining the sum of the inverses of the attenuations of the adjacent stations,

the resulting sum being multiplied by a predefined expression using a second quantity for the current mobile, and related to a threshold of the signal to interference and noise ratio, and

the resulting sum being further multiplied by the attenuation at said given base station, as represented by the corresponding first quantity, and

b. evaluating a load condition associated to said base station, by summing the individual loads calculated for the mobiles served by said base station and the individual loads calculated for the mobile candidates to said base station,

c. deciding whether or not a new candidate mobile can be processed in said network, wherein said load condition represents a feasibility of power allocation to said mobiles by said base station.

~~a. calculating a load induced by each mobile served by said base station and by each new candidate mobile to said base station, as a sole function of quantities belonging to a group of quantities, comprising:~~

~~quantities related to attenuations measured between said mobile and said base stations and quantities related to a signal to interference and noise ratio threshold associated to said mobile,~~

~~b. evaluating a load condition associated to said base station, as a function of the loads calculated for the mobiles served by said base station and candidates to said base station, said load condition representing the feasibility of the power allocation to said mobiles by the base station, and~~

~~e. deciding whether or not a new candidate mobile should be processed by said base station depending on the load condition evaluated for said base station.~~

12-13. (Cancelled)

14. (Original) Method according to Claim 11, characterised in that step b comprises storing a current value of the summed load and, during a new iteration of the method for a candidate mobile, step a comprises calculating the load of the candidate mobile, step b comprises updating the summed load and comparing the summed load with a threshold in order to determine whether or not the mobile is admitted at step c.

15. (Original) Method according to Claim 11, characterised in that step a comprises first of all evaluating a prior uplink budget condition (UBC), compared with a threshold budget value (UBC), and rejecting the candidate mobile if this condition is not satisfied.

16. (Original) Method according to Claim 15, characterised in that the prior condition of step a comprises, for a mobile, the calculation of its maximum power, divided by an expression related to the signal to interference and noise ratio, and by the attenuation at the server station.

17. (Original) Method according Claim 15, characterised in that the working condition of step b comprises a threshold value established in correspondence with the said threshold budget value (UBC).

18. (Previously Presented) Method according to Claim 11, characterised in that steps a to c comprise evaluating, for a given station, a non-congestion criterion, and in that step c comprises modifying a mobile bit rate in order to remain within the congestion criterion field.

19. (Previously Presented) Method according to Claim 18, characterised in that step a comprises, for each mobile, calculating its signal to interference and noise ratio threshold, and then calculating an expression related to this signal to interference and noise ratio threshold, and calculating the load on each mobile with this expression, and in that step

b comprises calculating the summed load due to the mobiles served by the base station and comparing this summed load with a threshold.

20. (Previously Presented) Method according to Claim 18, characterised in that step a comprises, for each mobile, calculating its signal to interference and noise ratio threshold and then calculating an expression related to this signal to interference and noise ratio threshold, and then:

- evaluating a prior uplink budget condition (UBC), with respect to a threshold budget value (UBC), the mobile concerned being rejected if this prior condition is not satisfied,
- for the mobiles which are not rejected, calculating the loads from the calculated expressions, the summed load due to the mobiles served by a station in question being calculated and compared with a threshold related to the threshold budget at step b.

21. (Previously presented) The device according to claim 2, characterized in that said load is given by $\sum_{m_u} \left(\sum_v \frac{1}{L_{m_u,v}} \right) \bar{\xi}_{m_u}' L_{m_u,v}$, where:

m_u is a mobile served by the base station u ,

$L_{m_u,v}$ relates to the attenuation between mobile m_u and base station v ,

$\bar{\xi}_{m_u}' = \frac{\bar{\xi}_{m_u}}{1 + \bar{\xi}_{m_u}}$ with $\bar{\xi}_{m_u}$ the signal to interface and noise ratio threshold for mobile m_u ,

and in that the power allocation to said mobiles by said base station is feasible if said load condition is below a predetermined threshold.